

CHEMICAL TRANSPORTATION ADVISORY COMMITTEE (CTAC)

TASK STATEMENT ACTION SHEET

TASK TITLE: Through the evaluation of current industry practices and procedures involving the introduction of pressurized nitrogen gas from waterfront facilities to a vessel's cargo tanks during inerting, padding, purging, and line clearing operations, identify the hazards associated with these operations and provide recommendations to prevent the occurrence of cargo tank overpressurization incidents.

DESCRIPTION OF TASK: As defined in Task Title.

RECOMMENDED ACTION: Through subcommittee meetings, workgroup meetings, and correspondence, provide recommendations to CTAC for the development of an industry standard to address the prevention of cargo tank overpressurization during inerting, padding, purging, and line clearing operations.

RECOMMENDED PRIORITY AND TIME FRAME:

Priority: (highest)    1    2    3    4    5    (lowest)

Date Required: April 2002

Other dates/deadlines/milestones: September 2001 (Short Term Task completion)

COAST GUARD TECHNICAL REPRESENTATIVE:

LT Michael C. McKean (202) 267-0087

Commandant (G-MSO-3)  
U. S. Coast Guard  
2100 Second Street, S. W.  
Washington, D. C. 20593

Forwarded for Committee consideration.

---

R. F. CORBIN  
Executive Director

Date forwarded: 06 Mar 01

Committee Action: Task accepted by the Committee. Committee established a new Subcommittee to address the issue.

---

PAUL BOOK  
Chairman

Date: 06 Mar 01

## CHEMICAL TRANSPORTATION ADVISORY COMMITTEE (CTAC)

### TASK STATEMENT

#### I. TASK TITLE

Through the evaluation of current industry practices and procedures involving the introduction of pressurized nitrogen gas from waterfront facilities to a vessel's cargo tanks during inerting, padding, purging, and line clearing operations, identify the hazards associated with these operations and provide recommendations to prevent the occurrence of cargo tank overpressurization incidents.

#### II. BACKGROUND

Inerting, padding, and purging operations are performed on chemical tankships and tankbarges to prevent cargo contamination and to reduce explosion hazards. During these operations, pressurized nitrogen gas is introduced from a waterfront facility into a vessel's cargo tank where it displaces a potentially combustible atmosphere, thus reducing the possibility of vapor ignition within the tank. Line clearing, or "pigging", operations are primarily performed in an effort to recover any residual cargo that remains in the facility's cargo piping at the completion of a cargo transfer operation. During a typical line clearing operation, pressurized nitrogen gas is used to propel an object, called a "pig", through the interior of a line where it pushes residual cargo toward the vessel's cargo tank as it travels.

In each of these operations, pressurized nitrogen gas is directed either into or towards a vessel's cargo tanks that are designed for relatively low pressure transfer operations. Within the last few years, several cargo tank overpressurization incidents have occurred within the marine chemical transportation industry that have resulted in major structural damage to decks and bulkheads and loss of cargo containment.

#### III. PROBLEM STATEMENT

There is a need for a standard that can be referred to by industry participants, namely operators in the ship/shore interface, that addresses cargo tank overpressurization hazards associated with inerting, padding, purging, and line clearing operations. Both the Coast Guard and industry are concerned that there will continue to be overpressurization incidents in the absence of such a standard.

#### IV. TASKS

##### Short Term

1. Review and evaluate current industry practices and procedures involving the introduction of pressurized nitrogen gas from waterfront facilities to a vessel's cargo tanks during inerting, padding, purging, and line clearing operations, and identify the hazards associated with these operations.

### Long Term

1. Provide recommendations for the development of an industry standard to address the prevention of cargo tank overpressurization during inerting, padding, purging, and line clearing operations.

#### V. ESTIMATED TIME TO COMPLETE TASK

1. Estimated time to complete Short Term Task: 6 months
2. Estimated time to complete Long Term Task: 1 year

#### VI. RECOMMENDED QUALIFICATIONS OF SUBCOMMITTEE MEMBERS

1. Knowledge of / experience in chemical tankship and/or tankbarge systems and operations.
2. Knowledge of / experience in chemical waterfront facility systems and operations.
3. Knowledge of / experience in inerting, padding, purging, and/or line clearing operations between vessels and waterfront facilities.

#### VII. COAST GUARD TECHNICAL REPRESENTATIVE

LT Michael C. McKean  
Commandant (G-MSO-3)  
U.S. Coast Guard  
2100 Second Street, S.W.  
Washington, D.C. 20593

Phone: (202) 267-0087  
Fax: (202) 267-4570  
Email: [mmckean@comdt.uscg.mil](mailto:mmckean@comdt.uscg.mil)